

H12EU
Revision 7
WESTLAND 30
Series 100
Series 100-60
July 11, 2000

TYPE CERTIFICATE DATA SHEET No. H12EU

Type Certificate Holder Westland Helicopters Limited
Yeovil, Somerset
England

(See NOTE 5)

Fuel Refer to Westland 30 Flight Manual for approved fuels and additive specifications.

	Output Shaft Horsepower (Torque)	Output Shaft RPM Maximum	Gas Generator RPM	Turbine Inlet
<u>Normal Operation</u>				
Take off (5 min.)	938 per engine (115%, 784 ft-lb)	6287	44,000	660
Maximum Continuous	938 per engine (115%, 784 ft-lb)	6287	43,400	635
<u>One Engine Inoperative</u>				
2 1/2 Min Power	1131 (140% 954 ft-lb)	6226	44,600	690
30 Min Power	1039 (128% 872 ft-lb)	6256	44,300	675
Maximum Continuous (See NOTE 9)	938 115% 784 ft-lb)	6287	43,400	635
Starting Momentary				720

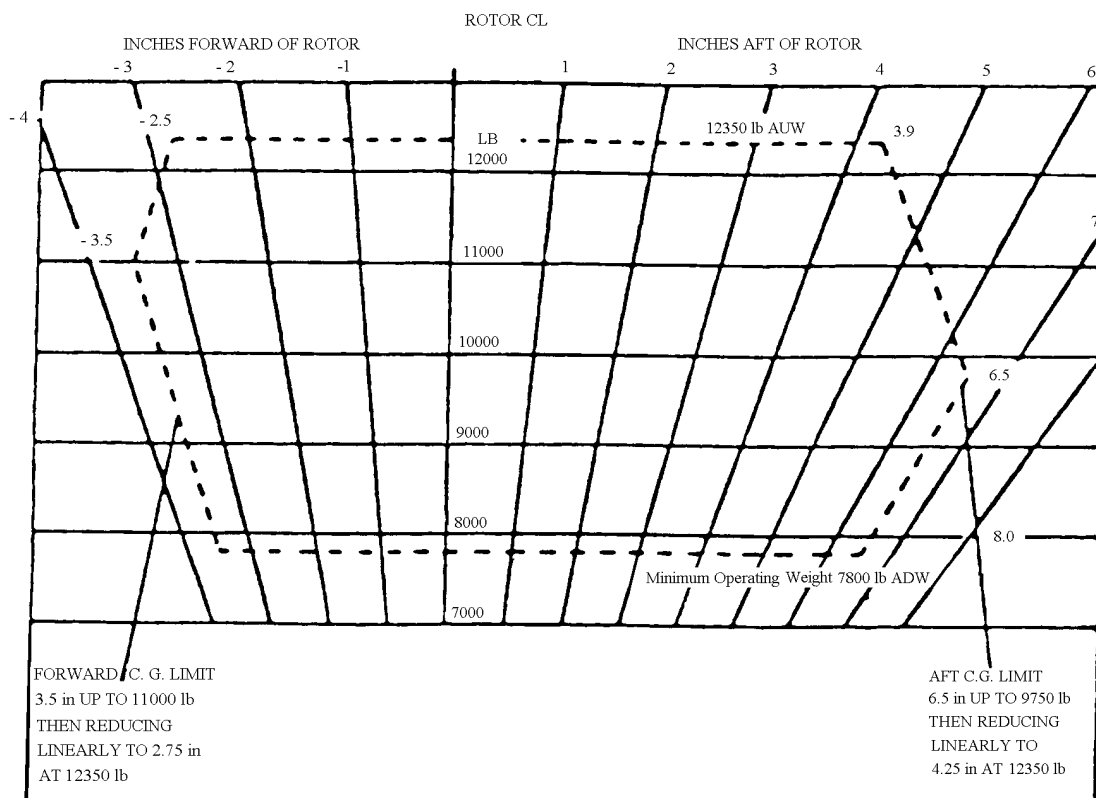
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	<u>Power Off</u>		<u>Power On</u>	
Maximum (Steady State)	355	(108.9%)	348	(106.8%)
Maximum (Transient)	383	(117.5%)	359	(110.3%)
Minimum (Steady State)	300	(92.0%)	316	(97.0%)
Minimum (Transient)	250	(76.7%)	250	(76.7%)

Airspeed Limits	Never-exceed-speed 120 knots IAS at sea level, and 12,350 lbs gross weight. See Helicopter Flight Manual for speed limit decrease with weight and altitude.
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C.G. Range

Longitudinal:



Lateral

Lateral C.G. positions for all normally attainable loading are cleared.

Empty Weight C.G. Range

See Rotorcraft Flight Manual.

Datum

Rotor center line.

Leveling Means

Three plates on the left side of transmission support platform.

Maximum Weight

12,350 lb.

Minimum Crew

1 pilot, VFR; 2 pilots IFR (See NOTE 5).

Maximum Passengers

19

Maximum Baggage

See Rotorcraft Flight Manual.

Fuel Capacity

	<u>Forward Tank</u>	<u>Aft Tank</u>
Maximum	175.7 (-81.7)	175.6 (62.3)
Usable	171.6 (-81.7)	173.7 (62.3)
Residual	1.2 (-81.7)	1.2 (54.0)

Unusable	2.9 (-81.7)	0.7 (54.0)
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Oil Capacity

US gals (moment arm in.)

Engine	2x1.2	(34.5)
Main gearbox	6.7	(14.0)
Intermediate gearbox	0.2	(196.0)
Tail rotor gearbox	0.3	(317.7)

Maximum Operating Altitude See Rotorcraft Flight Manual.

Rotor Blades and Control Movements For rigging information, refer to the Maintenance Manual.

II. Model Westland 30 series 100-60 (Transport Helicopter, Category A and B), Mod ZY 688 (See NOTE 5), Approved August 27, 1984

Engine Two Rolls Royce Ltd GEM Mk 530 (FAA Type Certificate Ref. # E19NE)

Fuel Refer to Westland 30 Flight Manual for approved fuels and additive specifications.

Installed Engine Limits
(See NOTE 8)

	Output Shaft Horsepower (Torque)	Output Shaft RPM <u>Maximum</u>	Gas Generator RPM	Turbine Inlet
<u>Normal Operation</u>				
Take off (5 min.)	947 per engine (94%, 784 ft-lb)	6348	35,980	686
Maximum Continuous	947 per engine (94%, 784 ft-lb)	6348	35,650	680
<u>One Engine Inoperative</u>				
2 1/2 Min Power	1142 (114% 954 ft-lb)	6287	36,800	708
30 Min Power	1047 (104.5% 872 ft-lb)	6306	35,980	686
Maximum Continuous (See NOTE 9)	947 (94% 784 ft-lb)	6348	35,650	680
Starting Momentary				720

Rotor Limits

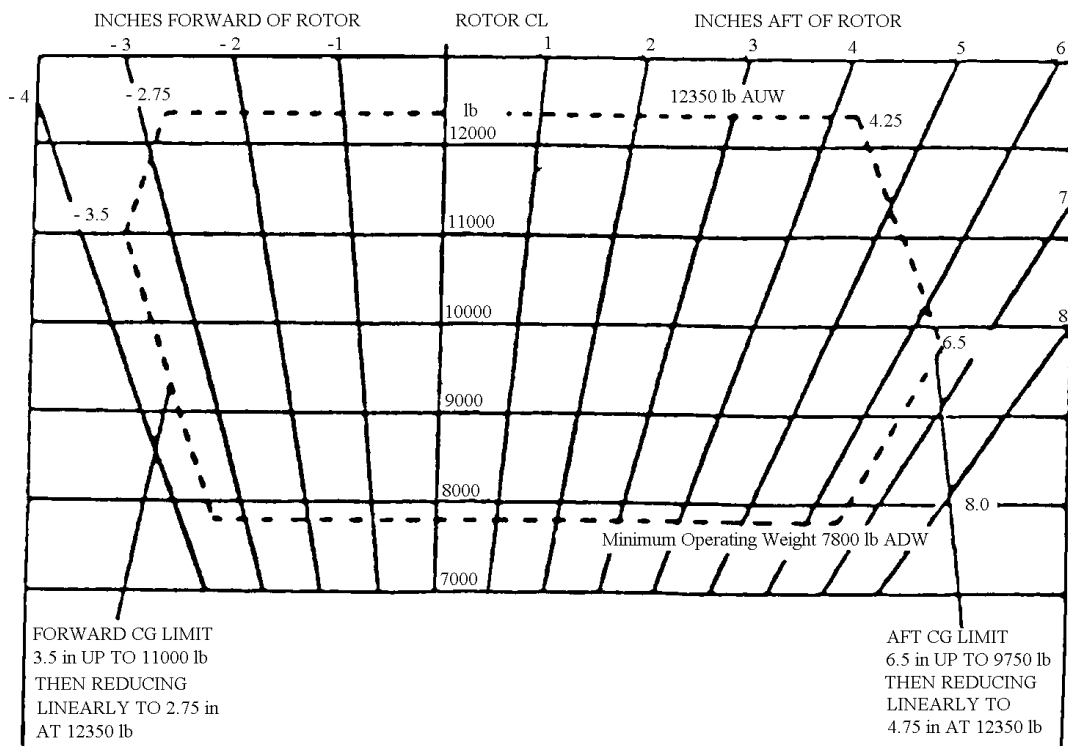
	<u>Power Off</u>		<u>Power On</u>	
Maximum (Steady State)	355	(108.9%)	336	(103%)
Maximum (Transient)	383	(117.5%)	359	(110%)
Minimum (Steady State)	300	(92.0%)	319	(98.0%)
Minimum (Transient)	250	(77%)	250	(77%)

Airspeed limits
KTS IAS

Never-exceed-speed 120 knots IAS at sea level, and 12,350 lbs gross weight. See Helicopter Flight Manual for speed limit decrease with weight and altitude.

C.G. Range

Longitudinal:



Lateral

Lateral C.G. positions for all normally attainable loadings are cleared.

Empty Weight C.G. Range

See Rotorcraft Flight Manual.

Datum

Rotor center line.

Leveling Means

Three plates on the left side of transmission support platform.

Maximum Weight

12,350 lb.

Minimum Crew

1 pilot, VFR; 2 pilots IFR (See NOTE 5).

Maximum Passengers

19

Maximum Baggage

See Rotorcraft Flight Manual.

Fuel Capacity

US Gals (moment arm in.)

Fuel to ASTM D1655:

	<u>Forward Tank</u>	<u>Aft Tank</u>
Maximum	175.7 (-81.7)	175.6 (62.3)
Usable	171.6 (-81.7)	173.7 (62.3)
Residual	1.2 (-81.7)	1.2 (54.0)
Unusable	2.9 (-81.7)	0.7 (54.0)

Oil Capacity

US gals (moment arm in.)

Engine	2x1.2	(34.5)
Main gearbox	6.7	(14.0)
Intermediate gearbox	0.2	(258.3)
Tail rotor gearbox	0.3	(317.7)

Maximum Operating Altitude See Rotorcraft Flight Manual

Rotor Blades and Control Movements For rigging information, refer to the Maintenance Manual.

III. Model Westland 30 Series 100-60 (Transport Helicopter, Category A & B), Mod. ZY 689, Approved December 6, 1985.

Engine Two Rolls Royce Gem Mk. 530 (FAA Type Certificate Ref. E19NE)

Fuel Refer to Westland 30 Flight Manual for approved fuels and additive specification.

Installed Engine Limits
(See NOTE 8)

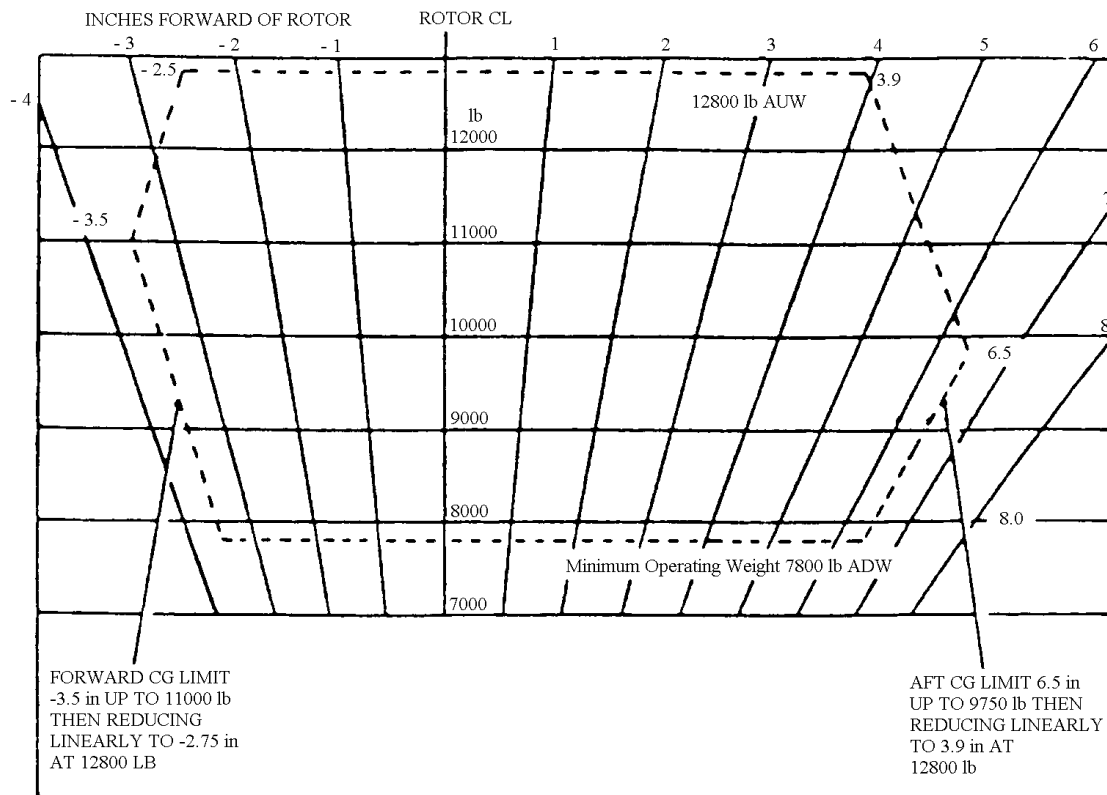
	Output Shaft Horsepower (Torque)	Output Shaft RPM Maximum	Gas Generator RPM	Turbine Inlet
<u>Normal Operation</u>				
Take off (5 min.)	1009 per engine (100%, 835 ft-lb)	6349	36,180	686
Maximum Continuous	1009 per engine (100%, 835 ft-lb)	6349	35,850	680
<u>One Engine Inoperative</u>				
2 1/2 Min Power	1383 (137% 1144 ft-lb)	6349	37,800	708
30 Min Power	1276 (126.5% 1056 ft-lb)	6349	36,180	686
Maximum Continuous (See NOTE 9)	1276 (126.5% 1056 ft-lb)	6349	35,850	680
Starting Momentary				720

Rotor Limits

	<u>Power Off</u>		<u>Power On</u>	
Maximum (Steady State)	355	(108.9%)	336	(103%)
Maximum (Transient)	383	(117.5%)	359	(110%)
Minimum (Steady State)	300	(92.0%)	319	(98%)
Minimum (Transient)	250	(77%)	250	(77%)

C.G. Range

Longitudinal:



Empty Weight C.G. Range

See Rotorcraft flight Manual

Datum

Rotor center line

Leveling Means

Three plates on the left side of transmission support platform.

Maximum Weight

12800 lb.

Minimum Crew

2 pilots

Maximum Baggage

19

Fuel Capacity

US gals (moment arm in.)

Fuel to ASTM D1655:

	<u>Forward Tank</u>	<u>Aft Tank</u>
Maximum	175.7 (-81.7)	175.6 (62.3)
Usable	171.6 (-81.7)	173.7 (62.3)
Residual	1.2 (-81.7)	1.2 (54.0)
Unusable	2.9 (-81.7)	0.7 (54.0)

Oil Capacity US gals (moment arm in.)	<table><tr><td>Engine</td><td>2x1.2</td><td>(34.5)</td></tr><tr><td>Main gearbox</td><td>6.7</td><td>(14.0)</td></tr><tr><td>Intermediate gearbox</td><td>0.2</td><td>(258.3)</td></tr><tr><td>Tail rotor gearbox</td><td>0.3</td><td>(317.7)</td></tr></table>	Engine	2x1.2	(34.5)	Main gearbox	6.7	(14.0)	Intermediate gearbox	0.2	(258.3)	Tail rotor gearbox	0.3	(317.7)
Engine	2x1.2	(34.5)											
Main gearbox	6.7	(14.0)											
Intermediate gearbox	0.2	(258.3)											
Tail rotor gearbox	0.3	(317.7)											
Maximum Operating Altitude	See Rotorcraft Flight Manual												
Rotor Blades and control Movements	For rigging information, refer to the Maintenance Manual												
Certification Basis	<p>FAR 21.29 and FAR 29 effective February 1, 1965 plus Amendments 29-1 through 29-14 and para. 29.1353 (c) of Amendment 29-15. In addition, applicant elected to comply with FAR 29 amendments 29-15 through 29-20 except for FAR 29.1529 as concerns Appendix A A29.4.</p> <p>The Airworthiness criteria for Instrument Flight dated December 15, 1978 for IFR Certification.</p> <p>Ditching approval in accordance with FAR 29.801 except FAR 29.1415 requirement.</p> <p>Equivalent safety findings: see NOTE 4.</p> <p>Type Certificate No. H12EU issued December 1, 1982.</p> <p>Date of Application for Type Certificate: January 20, 1978.</p>												
Serial Nos. Eligible	See Import Requirements.												
Import Requirements	<p>A U.S. Standard Airworthiness Certificate may be issued on the basis of a United Kingdom Certificate of Airworthiness for Export signed by a representative of the United Kingdom Civil Aviation Authority containing the following statement: - "The Helicopter covered by this Certificate has been examined, tested and found to conform to the type design approved under Type Certificate No. H12EU, and to be in a condition for safe operation."</p> <p>Caution: The United Kingdom Civil Aviation Authority notified the FAA that the Service Difficulty information on the W30 helicopter may be out of date. For the latest information on service difficulties prior to certifying a W30, please contact the Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas, 76193, telephone (817)222-5111, Fax (817)222-5961.</p>												
Service Information	"Service bulletins, structural repair manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is CAA of the U.K. and Northern Ireland approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only."												
Equipment	<p>The basis required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the helicopter for certification. Westland Report No. WER141-30-00497 lists required and optional equipment for the helicopter.</p> <p>In addition, the following item of equipment is required:</p>												

United Kingdom CAA - approved Rotorcraft Flight Manuals:

Series 100 RFM ref. WD6.2, approved December 1, 1982

Series 100-60 RFM ref. WD6.4, approved August 27, 1984 (12,350 lbs maximum AUW weight)

Series 100-60 RFM ref. WD6.6, Revision No. 2, approved December 6, 1985 (12,800 lbs maximum AUW weight)

There may be approved rotorcraft Flight Manual (RFM) amendments or supplements issued after the original type certificate, that are required to operate the helicopter when additional equipment is installed and/or when certain modifications are embodied.

The helicopter owner/operator should ensure that the correct approved rotorcraft Flight Manual (RFM) amendments or supplements are incorporated in the approved RFM, for the approved model.

NOTES

NOTE 1. Current weight and balance report including loading instructions and list of equipment included in the certificated empty weight, must be provided for each helicopter at the time of original certification.

When changes are made to the helicopter which affect the weight and balance, refer to the Flight Manual Weight and Balance Appendix for instructions.

NOTE 2. All placards indicated in the Rotorcraft Flight Manual must be installed in the appropriate location.

NOTE 3. Information essential to the proper maintenance of the helicopter is contained in the Manufacturer's Westland 30 Series 100 and 100-60 Maintenance Manual provided with each helicopter.

Life-limited components and associated retirement times are presented in Chapter 05, Section 05-10-00 Table 2 of the Maintenance Manual, and must be replaced in accordance therewith.

For Rolls-Royce engines the life limited parts and accountability methods are identified in Rolls-Royce Gem Engine Service Bulletin Numbers 6000 for Gem Mk.510 and 72-1 for MK.530.

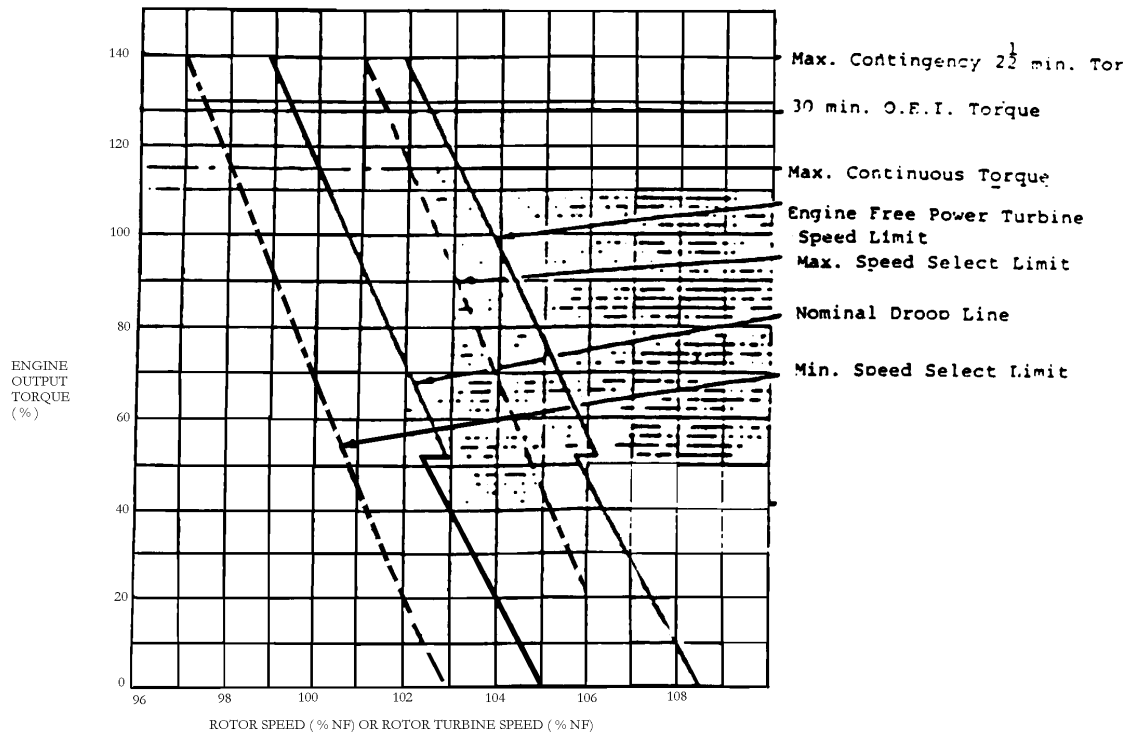
The instructions for continued airworthiness, "Airworthiness Limitation" are presented in chapter 05, section 05 - 10 - 00 table 5 of the Maintenance Manual must be complied with and may not be changed without FAA-approval.

NOTE 4.

	<u>30 Series 100</u>	<u>30 Series 100-60</u>
Equivalent Safety Findings:		
FAR 29.903(b)	Speed Select Control (Mechanical Link)	Speed Select Control (Ganged Potentiometer)
FAR 29.921 & 29.1151	Rotor Brake Warning	Rotor Brake Warning
FAR 29.1305(b)2	Fuel Pressure Indicator	Fuel Pressure Indicator
FAR 29.991(b)	Fuel System Pumps	Fuel System Pumps
FAR 29.923		Rotor drive System
		Test-Post Mod. ZY 689

NOTE 5. The Westland 30 Series 100 and Series 100-60 are eligible for IFR 2 pilot operation when Westland Modification ZY 505 is incorporated.

NOTE 6. The Gem Mk. 510 engine control is of the proportional governing type which necessitates accurate and consistent control rigging; refer to the Maintenance Manual for instructions. Figure 1 presents the limits for rotor speed (power turbine speed) vs torque.



NOTE 7. The paint scheme for the Tail Rotor Blades is given in Drawing WK 3039-0102, maintenance instructions for them are contained in Chapter 64-10 of the Maintenance Manual.

NOTE 8. Engine Definitions - The output shaft speed and torque (percent) for each rating, are based on the maximum speed select limit as shown on page 1 for the Gem Mk. 510 engine and page 3 and 5 for the Gem. Mk. 530 engines.

For computation purposes the following definitions have been established:

Engine Type	Torque		Power Turbine Speed	
		lb.ft		R.P.M.
Gem Mk. 510	100	681.5	100	6164
Gem Mk. 530	100	835	100	6164

NOTE 9. For Series 100 and 100-60 (MOD ZY688 Standard) rotorcraft at 12,350 lb. maximum all up weight, this emergency rating can be used for single engine demonstration/training purposes.
For series 100-60 (MOD ZY689 Standard) rotorcraft at 12,800 lb. maximum all up weight, the weight and transmission torque limits specified in Revision No. 3 to R.F.M. WD6.6 shall be used for single engine training.

NOTE 10. For Series 100-60 no dispatch deficiencies are permitted in the Engine Electronic Control (EEC) system. System includes 2 DC generators, 1 battery and EEC units for each engine.

NOTE 11. Westland 30 Series 100 and Series 100-60 rotorcraft may be equipped with a CAA-UK approved Electronic Flight Instrument System (E.F.I.S.) in accordance with Westland Helicopters Modification KX.400 and a CAA-UK approved Flight Manual Supplement No. 1 to W.D. 6.4.

NOTE 12. Westland 30 Series 100-60 (MOD ZY689 Standard) rotorcraft are eligible for operations with AFCS Part No. NDN 8919-02 and CAA-UK approved Flight Manual Supplement No. 2 to R.F.M. WD6.6.

NOTE 13. This type certificate is canceled effective July 11, 2000 and is not valid for aircraft manufactured after this date. This cancellation also invalidates, and precludes issuance of, any U.S. Certificates of Airworthiness

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